BIOCHEMISTRY

Volume 47, Numbers 1-12, 1982

(A translation of Biokhimiya)

## Volume 47, Number 1, Part 1 January, 1982


| | Engl./Russ. | |
|---|---|---|
| Use of Immobilization to Study Glyceraldehyde-3-phosphate Dehydrogenase. Immobilized Dimers of the Enzyme — V. I. Muronets, T. O. Golovina, and N. K. Nagradova | 1 | 3 |
| Biosynthesis and Posttranslational Maturation of Transferrin in Subcellular Fractions of Rat Liver — V. S. Gaitskhoki, N.A. Timchenko, L. T. Timchenko, L. V. Puchkova, Kh. A. Aslanov, and T. A. Salikhov. | 10 | 13 |
| Participation of α-Amino Groups of Amino Acids in the Formation of Ammonia in Heart Muscle — O. I. Pisarenko, I. M. Studneva, and A. V. Artemov | 15 | 19 |
| Influence of Iron, Actinomycin D, and Cycloheximide on the Synthesis of GTP Cyclohydrolase in Flavinogenic Yeasts — E. M. Logvinenko, G. M. Shavlovskii, A. E. Zakal'skii, and I. V. Zakhodylo | 23 | 28 |
| Endogenous Phosphorylation of Fragments of the Sarcoplasmic Reticulum of Fast Skeletal Muscles in the Rabbit — M. D. Kurskii, T. P. Kondratyuk, A. A. Osipenko, A. N. Fedorova, and V. A. Grigor'eva | 28 | 34 |
| Interpretation of the Low Rate of Polypeptide Synthesis in Mitochondria *in vitro* — Ya. M. Rabinovich and E. A. Pinus | 37 | 43 |
| The Surface of Human Blood Plasma Low-Density Lipoprotein: Areas Occupied by Proteins and Lipids — G. E. Dobretsov, M. M. Spirin, and Kh. G. Förster | 41 | 47 |
| Transport of Electrons from Mitochondria to Microsomes in a Reconstituted System of Cell Organelles — V. V. Chistyakov and L. N. Pospelova | 48 | 55 |
| Immunological Detection of a Sphingomyelin-Transporting Protein in Tumors and the Embryonic Rat Liver — É. V. Dyatlovitskaya, E. V. Sinitsyna, N. G. Timofeeva, E. F. Yakimenko, N. I, Kuprina, T. D. Rudinskaya, and L. D. Bergel'son | 54 | 62 |
| Existence of a System of Specific Transport of L-Leucine in the Growing Points of Potato Tubers — É. P. Ladyzhenskaya, L. S. Sukhova, N. P. Korableva, and L. V. Metlitskii | 58 | 66 |
| Size and Organization of Repeating Sequences in the Pigeon Genome — K. G. Gazaryan, V. A. Gol'tsov, V. Z. Tarantul, E. D. Kuznetsova, and L. S. Popov | 63 | 71 |
| Effect of Ionol Derivatives on the Energetics of Liver Mitochondria — I. E. Drobinskaya, I. V. Zhigacheva, and É. Ya. Kaplan | 72 | 81 |


## Volume 47, Number 1, Part 2 January, 1982


| | | |
|---|---|---|
| Enzymes Incorporated into Reversed Micelles of Surface-Active Substances in Organic Solvents. Investigation of the Protein—Aerosol OT—$H_2O$—Octane System by the Method of Sedimentation Analysis — Yu. L. Khmel'nitskii, A. V. Levashov, N. L. Klyachko, V. Y. Chernyak, and K. Martinek | 77 | 86 |
| Comparative Investigation of Certain Physicochemical Properties of Pig and Cattle Myeloperoxidases — V. N. Kokryakov, A. I. Borisov, S. V. Slepenkov, and S. N. Lyzlova | 89 | 100 |
| Properties of β-Glucosidase from the Cellulolytic Fungus Geotrichum candidum 3c — G. N. Rumyantseva and N. A. Rodionova | 95 | 108 |
| Composition of Phospholipids of Liver and Tumor Cell Nuclei during Growth of Ehrlich's Ascites Carcinoma and after Irradiation of the Tumor-Bearing Animals — N. P. Pal'mina and E. L. Mal'tseva | 101 | 115 |

Engl./Russ.

Effect of Cardenolides and $Na^+$ Gradient on ATP-Dependent Accumulation of $Ca^{2+}$ by Sarcolemma Preparations from Myocardium — A. N. Preobrazhenskii, V. V. Kupriyanov, V. A. Saks, R. Grosse, and and E. Spitzer . . . . . 110 126

Stabilization of $\Delta\mu_{H^+}$ in Escherichia coli when the Transmembrane Gradients are Dissipated by $K^+$ and $Na^+$ — L. I. Broun and Yu. V. Kim . . . . . 119 137

Peculiarities of the Transcription of the Nuclear Genome at the Early Stages of Liver Regeneration. Expression of Fractions of DNA with Various Frequencies of Repetition of Sequences — V. I. Prima, É. G. Lisitsa, and O. M. Platonov . . . . . 125 145

Replicative Methylation of DNA in L-Cells: Action of S-Isobutyl-adenosine and Cycloheximine and the Possible Existence of Two DNA Methylases — G. I. Kir'yanov, L. V. Isaeva, M. D. Kirnos, N. I. Ganicheva, and B. F. Vanyushin . . . . . 132 153

Properties of 5-Phosphoribosyl-1-pyrophosphate Amidotransferase from the Yeast Saccharomyces cerevisiae Wild Type and a Mutant with Changed Regulation of Purine Synthesis — V. S. Smolina and M. L. Bekker . . . . . 139 162

Volume 47, Number 2, Part 1 February, 1982

Thermodynamic Bases of Changes in Catalytic Properties of Immobilized Enzymes — L. V. Kozlov and L. Ya. Bessmertnaya. . . . . 145 179

Affinity Modification of Rabbit Skeletal Muscle Creatine Kinase by Fluorescent Analog of ATP: γ(p-Azidoanilide)-1,$N^6$-ethenoadenosine Triphosphate — A. Yu. Denisov, G. A. Nevinskii, and O. I. Lavrik. . . 149 184

Disc Electrophoresis of Mitochondrial Membrane Proteins of Gramineous Plants in DS-Na — B. I. Sarapul'tsev, S. E. Pel'tek, and T. A. Malysheva . . . . . 155 191

Extraction and Investigation of Triton-Solubilized ATPase from *Tetrahymena pyriformis* Cilia — S. A. Burnasheva and F. S. Fain . . . 160 197

Binding of Glucocorticoid–Receptor Complexes to Acceptor Zones of the Nuclei and Influence of Glucocorticoids on RNA Synthesis in Hormone-Sensitive and Resistant Cell Populations — M. A. Krasil'nikov, V. V. Adler, and G. Yu. Bochkarev . . . . . 167 206

Study of Lipid Dependence of Cytochrome P-450 Activity in Liver Microsomes Using Lipid-Transporting Proteins — É. V. Dyatlovitskaya, D. Kh. Petkova, A. F. Lemenovskaya, and L. D. Bergel'son. . . . . 177 216

Influence of Nucleoside Triphosphates on Cyclic Nucleotide Phosphodiesterase: Role of Protein Modulators — M. N. Garnovskaya, I. L. Dumler, and R. N. Étingof . . . . . 181 221

Interaction of Cholesterol with Polypeptides and Amino Acids — A. N. Klimov, G. V. Titova, K. A. Kozhevnikova, N. N. Klyueva, and E. V. Smirnova. . . . . 186 226

Special Features of [1-$^{14}$C]Leucine Exchange in Rat Liver in Acute Oxythiamine Avitaminosis — A. V. Naumov, L. I. Nefedov, and Yu. M. Ostrovskii . . . . . 192 233

Kinetic Mechanisms of Hydrolysis of Insoluble Cellulose by Multienzyme Cellulase Systems under Nonsteady-State Reaction Conditions — A. A. Klesov and S. Yu. Grigorash . . . . . 198 240

Volume 47, Number 2, Part 2 February, 1982

Irreversible Inhibition of Adenylate Cyclase by oxo-ATP — A. V. Skurat, E. A. Perfil'eva, Yu. V. Khropov, T. V. Bulargina, and E. S. Severin. . . . . 215 257

Immunochemical Properties of C-Modified Analogs of Angiotensin — G. M. Zalitis, G. A. Afanas'eva, and G. I. Chipens . . . . . 220 263

Properties of Catalytically Active Fragment Obtained by Limited Proteolysis of Phosphorylase Kinase — S. A. Shur, A. N. Pegova, L. K. Skolysheva, and P. L. Vul'fson . . . . . 223 266

Plasmalogen Composition of Phospholipid Classes of Various Porcine Organs and Tissues — V. M. Dembitskii. . . . . 229 272

Affinity Chromatography of Menadione Reductase on Sepharose with Aminoaromatic and Aminoaliphatic Quinone Ligands — É. P. Titovets . . . . . 233 276
Changes in Proteinase A and B Activity during Glucose Repression of *Saccharomyces cerevisiae* — L. A. Novikova, A. S. Zubatov, and V. N. Luzikov. . . . . 240 284
Study of Substrate Specificity of Rat Liver Mitochondrial Monoamine Oxidase Using an Air-Gap Electrode — E. B. Nikol'skaya, O. V. Yagodina, and V. M. Kostrova . . . . . 245 290
Existence of Boundary Lipids in Reconstituted Hydrophobic Protein–Lipid System — A. D. Dergunov, A. S. Kaprel'yants, A. A. Kabishev, I. M. Simakova, M. I. Molchanov, and D. N. Ostrovskii. . . . . 250 296
Genetic Diversity of Messenger RNAs in Rat Tissues — T. V. Koloskova, N. B. Ul'yanov, and G. A. Dvorkin. . . . . 258 305
Transcription of Globin Genes in Eukaryotic Cells Transformed by Rauscher Leukemia Virus — T. Yu. Peresleni, E. B. Mechetner, É. N. Rozinova, and G. A. Dvorkin. . . . . 265 312
Efficiency of Chromatographic Fractionation of Pigment–Proteolipid Complexes of Reaction Centers of Photosystems 1 and 2 from Pea Chloroplasts on DEAE-Cellulose — N. I. Shutilova, L. N. Demidova, I. G. Kadoshnikova, V. V. Klimov, and D. A. Zakrzhevskii . . . . . 270 317
Methylpyrophosphate: The Simplest Organic Substrate of Inorganic Pyrophosphatase from Yeast — M. S. Mel'nik, T. I. Nazarova, and S. M. Avaeva . . . . . 275 323
Two-Dimensional Electrophoresis of Nonhistone Proteins from Rat Liver and Lung Chromatin — A. V. Glebov. . . . . 281 329

Volume 47, Number 3, Part 1 March, 1982

Possible Function of the RNA-Binding Proteins of Eukaryotes: Blocking of Access to RNA of (Regulatory) Proteins That Interact with DNA — G. A. Romanov. . . . . 285 339
Inactivation of an Enzyme during the Reaction. Kinetic Description and Discrimination of Mechanisms — S. D. Varfolomeev . . . . . 288 343
Low-Potential c-Type Cytochrome of *Thiocapsa roseopersicina* — O. F. Korsunskii, L. D. Smolygina, T. V. Laurinavichene, and I. N. Gogotov. . . . . 300 355
Effect of Specific Antibodies on the Association of Subunits of Glyceraldehyde-3-phosphate Dehydrogenase — T. V. Cherednikova, V. I. Muronets, and N. K. Nagradova. . . . . 305 361
Kinetics of the Catalytic Oxidation of Pyrocatechol in Aqueous Solutions of Ceruloplasmin in the Presence of Iron Ions — V. M. Vorotyntsev, O. K. Biryukovich, Yu. I. Pyatnitskii, G. I. Golodets, B. V. Kachorovskii, R. A. Krivoruchko, and M. V. Mindyuk . . . . . 317 374
Substrate Specificity of Adenosylcobalamin-Dependent Glycerol Dehydratase. Interaction with Enantiomers of 1,2-Propanediol — T. L. Korsova, E. A. Vorontsov, V. M. Gurevich, and A. A. Poznanskaya . . . . . 321 379
Incorporation of [$^3$H]Thymidine into DNA Fractions of Various Frequencies of Repetition of Nucleotide Sequences in the Genome of the Sea Urchin *Strongylocentrotus droebachiensis* — T. F. Andreeva and L. F. Andreeva . . . . . 326 385
Study of the Active Site of Glucoamylase from *Aspergillus awamori* — A. N. Sevel'ev, V. R. Sergeev, and L. M. Firsov. . . . . 330 390
Characteristics of Rat Brain DNase — V. A. Ivanov, O. N. Terpilovskaya, T. M. Tret'yak, and G. N. Smirnova . . . . . 337 398
Kinetic Behavior of Urokinase in Reactions of Hydrolysis of Low-Molecular-Weight Substrates — A. V. Maksimenko, V. P. Torchilin, and V. N. Smirnov . . . . . 344 405
Enzymatic Hydrolysis of Cellulose. Regulatory Effect of an Insoluble Substrate on the Effectiveness of the Enzymatic Reaction — A. A. Klesov and S. Yu. Grigorash. . . . . 348 409
Study of the Transport of RNA Out of Isolated Nuclei of Cultured Dwarf Hamster Cells — N. A. Gudkova, N. V. Sonina, and N. G. Shuppe. . . . 357 419

Volume 47, Number 3, Part 2 March, 1982

Chromatographic and Spectral Characteristics of Lipid-Soluble Fluorescent Compounds, Accumulated during Damage and Aging of Plant Tissues — M. N. Merzlyak, S. I. Pogosyan, V. B. Rumyantseva, A. S. Sobolev, N. V. Shevchenko, and M. V. Gusev . . . . . 363 425

Characterization of Two Types of Binding Sites of Substrate-Like Inhibitors in the Heavy Meromyosin Molecule — E. V. Petushkova and V. M. Kodentsova . . . . . 370 434

Properties of Metlegoglobin Reductase of Lupine Nodules — A. F. Topunov, S. S. Melik-Sarkisyan, L. A. Lysenko, and V. L. Kretovich . . . . . 376 442

Comparative Study of the Action of Certain Inhibitors of Permeability on Mitochondria and Chloroplasts — K. F. Shol'ts, G. I. Reznik, I. M. Mosolova, and A. V. Kotel'nikova . . . . . 380 447

Interrelationship between the Regulatory Effects of Adenosine, ATP, and Fluoride on Heart Adenylate Cyclase — P. V. Avdonin, I. V. Svitina-Ulitina, and V. A. Tkachuk . . . . . 386 455

Adsorption of Cellulolytic Enzymes of Cellulose and Kinetics of the Action of Adsorbed Enzymes. Two Types of Interaction of the Enzymes with an Insoluble Substrate — M. L. Rabinovich, Nguen Van Viet, and A. A. Klesov . . . . . 394 465

Investigation of the Interaction of NADH Dehydrogenase from M. lysodeikticus Membranes with Lipids in a Reconstituted System — A. D. Dergunov, I. G. Zhukova, T. P. Nikul'tseva, G. K. Degteva, T. V. Nosova, A. S. Kaprel'yants, and D. N. Ostrovskii . . . . . 404 478

Isolation, Purification, and Properties of Acid Deoxyribonuclease of Eggs of the Silkworm Bombyx mori — A. P. Bochkova, Yu. B. Filippovich, and A. S. Konichev . . . . . 413 489

UV-Light Tested Protein — DNA Interactions in Nuclei at Various Stages of the Cell Cycle of Physarum polycephalum — D. A. Kostyuchenko, G. Ya. Kolomitseva, V. I. Kostyuchenko, and L. R. Ptitsyn . . . . . 420 497

Characteristics of Chromatin from Rat Liver Cells Bound to the Nuclear Membrane — A. N. Prusov, D. Fais, V. Yu. Polyakov, and B. F. Vanyushin . . . . . 424 502

Volume 47, Number 4, Part 1 April, 1982

Isolation and Partial Characterization of Amino Acid Sequence of Whale Prolactin — G. P. Elizarova, L. I. Kolesnichenko, O. P. Bochkova, and Yu. A. Pankov . . . . . 433 515

Hydrolysis of $N_\alpha$-Arylsulfonyl-arginine and N-Arylsulfonyl-valyl-arginine Methyl Esters by α- and β/γ-Thrombins — S. M. Strukova, O. A. Semenova, E. G. Kireeva, A. A. Sereiskaya, V. P. Romanova, and V. K. Kibirev . . . . . 445 528

Reversible Effect of Intense Light on Photochemical Properties of *Rhodospirillum rubrum* Chromatophores — E. V. Pakshina, N. N. Lebedev, M. G. Shaposhnikova, and A. A. Krasnovskii . . . . . 450 534

Kinetic Study of $Mg^{2+}$-Dependent $CF_1$-ATPase in Presence of Stimulators — A. N. Mal'yan . . . . . 455 540

Kinetic Mechanism of Action of NAD-Dependent Formate Dehydrogenase from the Methylotrophic Yeast *Candida methylica* — A. M. Zaks, T. V. Avilova, O. A. Egorova, V. O. Popov, and A. M. Egorov . . . . . 460 546

ATP Synthetase Activity, Respiration, and Cytochromes of Rat Heart Mitochondria upon Aging and Hyperthyroidism — V. V. Lemeshko, P. A. Kaliman, L. I. Belostotskaya, and A. A. Uchitel' . . . . . 465 552

Structure of Reactive Sites of Protein Inhibitor of Serine Proteinases from Kidney Beans — V. V. Mosolov, T. A. Valueva, E. L. Malova, G. V. Kolosova, and A. N. Cheban . . . . . 473 561

Nonspecific Acid Nucleoside Triphosphatase from Rat Liver Cytosol and Chromatin: Partial Purification and Major Properties — S. N. Naryzhnyi and V. M. Krutyakov . . . . . 480 569

Proteins of Bacterial Membranes. $H^+$-Adenosine Triphosphatase from *Acholeplasma laidlawii* Cells — A. B. Kapitanov, V. F. Ivanova, N. A. Belyaev, and M. Grunert . . . . . 486 575

Inhibition of Cytochrome $b_2$ by Acrylamide — Yu. Yu. Kulis, G.-Yu. S. Shvirmitskas, V. S. Antanavichyus, and R. K. Vaitkyavichyus . . . . . 492 582

| | Engl. | Russ |
|---|---|---|
| Specific Binding of [$^3$H]-5α-Androstane-3β,17β-diol by Cytosol of Male and Female Rat Hypophysis — V. G. Degtyar' | 496 | 587 |
| Influence of Supercooling of Rat Liver Mitochondria: Release of Potassium and Malate Dehydrogenase at Temperatures of Lipid Phase Transitions — T. P. Bondarenko, A. Yu. Semenchenko, and A. M. Belous | 502 | 594 |
| Influence of Lipid on the Activity of Soluble Mitochondrial Pyrophosphatase and Its Conversion to the Membrane-Bound Form — Yu. A. Shakhov, V. F. Dukhovich, A. M. Velandiya, V. A. Spiridonova, S. É. Mansurova, and I. S. Kulaev | 508 | 601 |

Volume 47, Number 4, Part 2 April, 1982

| | | |
|---|---|---|
| Mechanisms of Production and Consumption of Intermediate Cellooligosaccharides and Cellobiose during Enzymatic Hydrolysis of Insoluble Cellulose — A. A. Klesov | 515 | 608 |
| Isolation, Purification, and Characterization of Restriction Endonuclease Eco RII — V. G. Kosykh, S. A. Puntezhis, Ya. I. Bur'yanov, and A. A. Baev | 524 | 619 |
| Influence of Rate of Freezing and Thawing on Functional State and Ionic Permeability of Rat Liver Mitochondria — A. Yu. Petrenko, A. M. Belous, and V. V. Lemeshko | 530 | 626 |
| Artifactual Multiple Forms of β-Cyanoalanine Synthase from White Lupine — S. M. Galoyan, É. A. Tolosa, and E. V. Goryachenkova | 535 | 633 |
| Influence of Pyridazinones and Cerulenin on Biosynthesis and Functional State of Photosystem 2 in Barley Leaves — M. G. Rakhimberdieva, É. Lehoczki, N. V. Karapetyan, and A. A. Krasnovskii | 539 | 637 |
| Binding of Glucocorticoid Hormones and Cholesterol to Rat Brain and Liver Mitochondria — G. G. Vol'skii | 547 | 647 |
| Adenine Nucleotide Metabolism in Livers of Old Rats Upon Starvation and Administration of Salts of Succinic Acid — Yu. G. Kaminskii, E. A. Kosenko, and M. N. Kondrashova | 553 | 654 |
| Influence of Gibberellic Acid on RNA Synthesis in Dwarf Pea — S. N. Kilev, A. V. Kholodar', V. M. Chekurov, and N. P. Mertvetsov | 557 | 660 |
| Interaction of Alkaline Phosphatase with Acid Phospholipids of E. coli Cells and Artificial Membranes — M. A. Nesmeyanova, M. V. Bogdanov, M. N. Kolot, O. A. Zemlyanukhina, and I. S. Kulaev | 567 | 671 |
| Influence of Finely Dispersed Iron Powder on Physicochemical Properties of Mouse Liver Lipids — E. N. Kukhtina, N. N. Glushchenko, Yu. I. Fedorov, and E. B. Burlakova | 573 | 678 |
| Purification of Specific Endonucleases Eco RI and Bgl II by Affinity Chromatography — O. I. Miroshnichenko, B. S. Naroditskii, S. N. Khil'ko, T. N. Platonova, I. M. Gruber, and T. I. Tikhonenko | 580 | 686 |
| BRIEF COMMUNICATIONS | | |
| Use of DNA Methylases as Reagents for Obtaining DNAs Labeled with Isotopes — Ya. I. Bur'yanov, I. G. Bogdarina, V. F. Nesterenko, and A. A. Baev | 587 | 695 |

Volume 47, Number 5, Part 1 May, 1982

| | | |
|---|---|---|
| Products of Limited Proteolysis of Chromatin Core Particles — S. A. Grigor'ev and I. A. Kresheninnikov | 589 | 707 |
| Probing of the Linear Distribution of Nucleosomes in Chromatin — E. P. Kharchenko, A. A. Myul'berg, L. I. Tishchenko, and E. A. Borisova | 594 | 713 |
| Peculiarities of the Regulation of the Adrenal Oxoglutarate Dehydrogenase Complex by NADH and Adenosine Diphosphate — S. A. Strumilo, N. I. Taranda, and V. V. Vinogradov | 603 | 724 |
| Study of the Enzyme System Converting Chlorophyllide to Chlorophyll in Etiolated Leaves Using Exogenous Substrates — A. B. Rudoi, A. Yu. Vezitskii, and A. A. Shlyk | 610 | 733 |
| Calorimetric Study of the Interaction of Yeast Inorganic Pyrophosphatase with Magnesium and Phosphate Ions — N. N. Vorob'eva, T. I. Nazarova, N. P. Bakuleva, S. M. Avaeva, I. I. Protasevich, and A. L. Platonov | 616 | 740 |

| | Engl. | Russ. |
|---|---|---|
| Effect of Cycloheximide on the Activity of Alkaline and Acid DNases in Rat Cells — B. P. Ivannik and N. I. Ryabchenko | 621 | 746 |
| Peroxide Oxidation of Lipids of Rat Liver Mitochondria during Aging of the Organism and Hyperthyroidism — V. V. Lemeshko and Yu. V. Nikitchenko | 626 | 752 |
| Subunit Interactions in Luciferase from the Firefly Luciola mingrelica. Their Role in the Manifestation of Enzyme Activity and the Process of Thermal-Inactivation — L. Yu. Brovko, E. I. Belyaeva, and N. N. Ugarova | 633 | 760 |
| Investigation of the Effects of Various Factors on the Formation and Properties of Sheep Haptoglobin–Hemoglobin Complexes — R. U. Beisembaeva | 639 | 767 |
| Effects of Cryoprotectors on the Properties of the Surface of Mitochondrial Membranes, Determined according to Their Distribution in Two-Phase Aqueous Systems — N. M. Boiko, V. A. Bondarenko, and A. M. Belous | 644 | 773 |
| Activation of Trypsin by the Methyl Ester Substrate of N-Acetyl-L-Norvaline — R. B. Aisina and M. A. Manenkova | 648 | 778 |
| Cytochromes c and P-450 as Terminal Electron Acceptors in a Reconstituted System of Mitochondrial Hydroxylation — A. G. Armenyan, S. S. Mardanyan, and R. M. Nalbandyan | 653 | 784 |


Volume 47, Number 5, Part 2 May, 1982


| | | |
|---|---|---|
| Regulation by Glycolipids of the Reaction of Superprecipitation of an Actomyosin-Like Brain Protein — R. N. Glebov, G. N. Kryzhanovskii, V. I. Shvets, and Yu. G. Sandalov | 659 | 791 |
| Trypsin Inhibitor from *Gleditsia triacanthos* L. Seeds — V. V. Mosolov, G. V. Kolosova, T. A. Valueva, and L. A. Dronova | 664 | 797 |
| Stereospecificity of the Active Site of Acylcholinesterases — R. I. Volkova, A. P. Brestkin, and L. M. Kochetova | 669 | 803 |
| Specific Binding of Serotonin by Blood Leukocytes and Peritoneal Cells of Mice — L. S. Eliseeva and L. E. Stefanovich | 675 | 810 |
| Purification and Partial Characterization of Protease B from Germinating Vetch Seeds — A. D. Shutov, Do Ngok Lanh, and I. A. Vaintraub | 678 | 814 |
| Interrelationship between the Amounts of Natural Antioxidants and the Oxidizability of Mouse Liver Lipids in the Normal State and after Administration of α-Tocopherol — E. B. Burlakova, E. N. Kukhtina, N. G. Khrapova, and S. A. Aristarkhova | 685 | 822 |
| Stability of the Hydrogenase from the Purple Sulfur Bacterium *Thiocapsa roseopersicina* — N. A. Zorin and I. N. Gogotov | 690 | 827 |
| Structure of the Active Site of Subtilisin 72* — N. F. Kazanskaya and O. A. Kost | 696 | 834 |
| Ultrastructural and Biochemical Analysis of Fragmented Microsome Membranes — Yu. S. Tarakhovskii and V. V. Obraztsov | 703 | 842 |
| Lipid Dependence of the Pyrophosphatase Activity of Rat Liver and Hepatoma Microsomes — É. V. Dyatlovitskaya, E. B. Yaronskaya, and L. D. Bergel'son | 711 | 850 |
| Isolation of Polynucleotide Phosphorylase from the Rat Liver and Study of the Regulation of Its Activity by Growth Hormone — L. E. Andrianova, É. B. Khoroshutina, V. P. Fedotov, and I. I. Votrin | 717 | 857 |
| Different Accessibility of 5S and 5.8S rRNAs to RNase $T_1$ in the 60S Subunits and 80S Ribosomes of Yeast — A. S. Man'kin, R. Maribona, S. B. Korneva, A. M. Kopylov, and K. G. Skryabin | 724 | 864 |
| Comparative Analysis of the Study of the Interaction of Various Forms of Estrogen Receptors with the Cell Nucleus — G. D. Mataradze, E. V. Gontar', Ya. Yu. Kondrat'ev, and V. B. Rozen | 728 | 869 |


Volume 47, Number 6, Part 1 June, 1982


| | | |
|---|---|---|
| Dynamic Protein Ensembles in Biological Membranes — A. S. Kaprel'yants | 739 | 883 |
| Factors Causing the Fusion of Avian Erythrocytes: Effect of Dimethylsulfoxide and Temperature on State of Plasma Membrane — N. M. Boiko, V. A. Bondarenko, and A. M. Belous | 749 | 896 |
| Injury of $H^+$-ATPase Complex of Chloroplasts by Low Concentrations of Glutaraldehyde — T. E. Krendeleva, G. P. Kukaraskikh, N. V. Nizovskaya, and G. V. Tulbu | 755 | 904 |

| | Engl. | Russ. |
|---|---|---|
| Uracil-DNA Glycosylase from Rats: Correlation between Enzyme Activity and DNA Synthesis in Different Tissues – O. N. Aprelikova and N. V. Tomilin | 761 | 911 |
| Early Changes in Structure of DNA Template after Administration of Glucocorticoids – V. V. Adler, M. A. Krasil'nikov, G. Yu. Bochkarev, and V. S. Shapot | 764 | 915 |
| Interaction of the $Cu(Lys)_2$ Complex with the NADPH-Dependent Microsomal Electron Transport Chain and the Microsomal Membrane – G. V. Rumyantseva and L. M. Weiner | 770 | 921 |
| Biosynthesis of 6,7-Dimethyl-8-ribityllumazine in Extracts of the Yeast Pichia guilliermondii – E. M. Logvinenko, G. M. Shavlovskii, A. E. Zakal'skii, and I. V. Zakhodylo | 778 | 931 |
| Membrane-Active Inhibitors of Electron Transport in Chloroplasts – V. V. Roshchina, V. P. Solomatkin, and A. A. Mutuskin | 783 | 937 |
| Partial Purification and Study of Properties of cGMP-Dependent Protein Kinase from Prawn Tissues – N. S. Safarov, Z. Sh. Musaev, S. N. Baba-Zade, S. T. Sadykhov, and N. Kh. Mekhtiev | 790 | 945 |
| Characterization of Substrates of Endogenous Phosphorylation of Sarcoplasmic Reticulum Fragments of Rabbit Fast-Contracting Skeletal Muscles – T. P. Kondratyuk, M. D. Kurskii, A. N. Fedorov, A. A. Osipenko, L. I. Meshkova, and E. A. Litvinenko | 794 | 950 |
| Influence of Transformed Steroids on Na,K-Dependent ATPase – A. V. Kamernitskii, I. G. Reshetova, N. M. Mirsalikhova, and F. T. Umarova | 800 | 957 |
| Inhibitory Effect of Concanavalin A on Some Biosynthetic Processes in Saccharomyces cerevisiae Spheroplasts – L. P. Ryazanova, A. B. Tsiomenko, P. Bieli, V. M. Vagabov, and I. S. Kulaev | 804 | 962 |

Volume 47, Number 6, Part 2 June, 1982

| | | |
|---|---|---|
| Investigation of Complexing of Fragment D with Monomeric Fibrin by Method of Fractional Salting Out – T. M. Pozdnyakova, V. N. Rybachuk, and É. V. Vovk | 813 | 971 |
| The Use of Immobilization for a Study of Glyceraldehyde-3-phosphate Dehydrogenase. Immobilized Monomers – V. I. Muronets, L. I. Ashmarina, R. A. Asriyants, and N. K. Nagradova | 818 | 977 |
| Effect of Phytyl Side Chain of Tocopherols on Oxidative Reactions Occurring in Lipids – E. B. Burlakova, E. N. Kukhtina, I. K. Sarycheva, N. G. Khrapova, and S. A. Aristarkhova | 825 | 987 |
| Isolation and Catalytic Properties of Soluble Monomeric Form of Inorganic Pyrophosphatase from Baker's Yeast – V. N. Kasho, N. P. Bakuleva, A. A. Baikov, and S. M. Avaeva | 830 | 993 |
| Protein Composition of Chromatin Fractions Differing in Association with Nuclear Structures at Low Ionic Strength – V. V. Lobanenkov and N. M. Mironov | 835 | 999 |
| Involvement of Polar Lipids in Formation of Polyenoic Fatty Acids in Greening Wheat Seedlings – A. N. Grechkin and I. A. Tarchevskii | 841 | 1007 |
| Influence of Sodium Gradient on Calcium Uptake by Plasma Membrane Fraction of Myometrium – N. F. Bratkova, M. D. Kurskii, and S. A. Kosterin | 847 | 1015 |
| Influence of Divalent Copper Ions on Catalytic Properties of Bovine Liver Glutamate Dehydrogenase – S. A. Agadzhanyan and L. V. Karabashyan | 852 | 1022 |
| Two Forms of Carbonic Anhydrase from Bean Chloroplasts – Yu. M. Komarova, N. G. Doman, and G. L. Shaposhnikov | 856 | 1027 |
| Multiple Molecular Forms of "Malic" Enzyme from Zea mays Leaves – L. A. Oparina | 862 | 1035 |
| Special Features of Hydrolysis of Methylpyrophosphate by Yeast Inorganic Pyrophosphatase – M. S. Mel'nik, T. I. Nazarova, and S. M. Avaeva | 865 | 1039 |
| Influence of Substrates of $Ca^{2+}$-ATPase on Kinetic Properties of SH Groups of Sarcoplasmic Reticulum – A. M. Rubtsov | 871 | 1046 |

Volume 47, Number 7, Part 1 July, 1982

| | | |
|---|---|---|
| Amino Acid Sequence of Sei Whale Somatotropin – N. A. Yudaev, Yu. A. Pankov, A. A. Bulatov, and T. A. Osipova | 881 | 1059 |

| | Engl./Russ. | |
|---|---|---|
| 11β-Steroid-Hydroxylating Cytochrome P-450 from Bovine Adrenal Cortex Mitochondria: Isolation, Physicochemical and Functional Characteristics — S. P. Martsev, V. L. Chashchin, and A. A. Akhrem | 891 | 1070 |
| Cooperative Mechanism of the Phosphorylation of Monomer and Dimer Forms of Inorganic Pyrophosphatase from Baker's Yeast — N. P. Bakuleva, V. N. Kasho, A. A. Baikov, T. I. Nazarova, and S. M. Avaeva | 904 | 1084 |
| SH-Dependent Bovine Kidney Aminopeptidase. Isolation, Physicochemical Properties, and Substrate Specificity — T. M. Chulkova and V. N. Orekhovich | 910 | 1091 |
| Peculiarities of the Biosynthesis and Phosphorylation of Cytoplasmic Proteins from Various Regions of the Rat Brain and Liver under Functional Influences — V. N. Vitvitskii | 915 | 1097 |
| Electron Transport and Photophosphorylation Associated with the Photoreduction of Oxygen by the Chloroplasts of Peas Grown under Different Conditions of Illumination — V. L. Shmeleva, B. N. Ivanov, and T. P. Red'ko | 921 | 1104 |
| Structuro-functional Organization of ACTH: The Fragment $ACTH^{11-24}$, a Functionally Important Portion of the Hormone Molecule — A. A. Skuin'sh, M. P. Ratkevich, G. G. Kublis, E. A. Porunkevich, I. V. Syskov, and G. I. Chipens | 924 | 1108 |
| Characteristics of Isoenzymes of Glucose-6-phosphate Dehydrogenase in Estrogen-Dependent and Estrogen-Independent Mammary Gland Tumors of Experimental Animals — T. M. Morozova and L. Ya. Plotnikova | 928 | 1113 |
| Role of CO-Binding Cytochrome c in the Enzymatic Oxidation of Methane by the Bacterium *Methylococcus capsulatus* — R. I. Grozdev, E. L. Nikonova, A. I. Pilyashenko-Novokhatnyi, E. V. Shushenacheva, A. N. Grigoryan, V. S. Belova, and L. A. Shirokova | 933 | 1118 |
| Isolation and Study of Certain Properties of New Phosphopeptides of Nerve Tissue — D. G. Mikeladze and D. G. Kacharava | 940 | 1125 |
| Accumulation of Protein-Bound Forms of Glucocorticoids by Preparations of Rat Heart Sarcolemma — Yu. M. Seleznev, L. A. Medvedeva, and V. N. Smirnov | 945 | 1131 |
| Chemical Addition of p-Aminophenylgalactoside to Acid α-Glucosidase from the Human Liver — D. M. Belen'kii, V. I. Mikhailov, and V. N. Shaptseva | 954 | 1141 |

Volume 47, Number 7, Part 2 July, 1982

| | | |
|---|---|---|
| Incorporation of [$^3$H]Thymidine into Repetitive and Unique Sequences of DNA of the Sea Urchin *Strongylocentrotus droebachiensis* at the Stage of Synchronous Divisions of Cleavage — T. F. Andreeva and L. F. Andreeva | 959 | 1147 |
| Role of SH Groups in the Manifestation of the Sensitivity of Plasma Membrane ATPase of Plant Cells to Ions — T. A. Palladina and N. V. Petrova | 965 | 1154 |
| Threonine Catabolism in the Bacterium *Clostridium sticklandii* — N. P. Golovchenko, B. F. Belokopytov, and V. K. Akimenko | 969 | 1159 |
| Effects of Monovalent Cations on the Synthesis and Kinetics of the Decomposition of RNA in Ehrlich's Carcinoma Cells — S. D. Kaz'min, I. M. Danko, and V. G. Pinchuk | 974 | 1165 |
| Isozymes of Glycogen Phosphorylase of Chicken Tissues and Changes in the Ratio of the Isozymes during Ontogenesis — E. B. Abramova, Yu. G. Yurovitskii, L. S. Mil'man, and A. A. Zotin | 981 | 1172 |
| Analysis of the Composition and Substrate Specificity of the Fibrinolytic Preparation from the Fungus *Flammulina velutipes* — E. N. Morozova, N. N. Falina, N. P. Denisova, L. V. Barkova, N. V. Psurtseva, M. A. Samartsev, and V. I. Shitova | 990 | 1181 |
| Effects of Polyols and Sugars on the Stability of Microsomal Cytochrome P-450 — A. N. Eremin and D. I. Metelitsa | 995 | 1186 |

| | Engl. | Russ. |
|---|---|---|
| Affinity Modification of Heavy Meromyosin and Subfragment 1 by Mixed Anhydrides of [$^{14}$C]-AMP, ε-AMP, and Mesitylenecarboxylic Acid — V. M. Kodentsova, E. V. Petushkova, V. L. Drutsa, and S. S. Tret'yakova | 1002 | 1193 |
| Organization of the Nucleotide Sequences of Wheat Embryo Nuclear DNA — N. G. Filimonov, N. A. Martakova, L. S. Popov, V. Z. Tarantul, M. A. Aitkhozhin, and K. G. Gazaryan | 1007 | 1198 |
| Effects of Derivatives of Benzimidazole and Levamisole (Phenylimidothiazole) on Cyclic 3':5'-AMP Phosphodiesterase from Pig Brain — M. N. Kochetkova and N. N. Ozeretskovskaya | 1016 | 1208 |
| Effects of the Antineoplastic Antibiotic Bleomycin on DNA Polymerase Activity — S. N. Naryzhnyi, I. V. Shevelev, and V. M. Krutyakov | 1020 | 1212 |
| Investigation of the ATPase Activity and ATP-Dependent Accumulation of $Ca^{2+}$ by the Nuclei of Skeletal Muscles. Effects of Denervation and Electrical Stimulation — O. G. Kulikova, G. A. Savost'yanov, L. M. Belyavtseva, and N. I. Razumovskaya | 1024 | 1216 |
| Investigation of the Lipid Dependence of the Pyrophosphatase Activity of Liver Microsomes and Rat Hepatoma Using Phospholipase C — É. V. Dyatlovitskaya, E. B. Yaronskaya, and L. D. Bergel'son | 1029 | 1222 |
| Photoinduced Changes in the Quantum Yields of the Photochemical Cycle of Conversions of Bacteriorhodopsin and Transmembrane Transport of Protons into *Halobacterium halobium* Cells — V. T. Dubrovskii, S. P. Balashov, O. A. Sineshchekov, L. N. Chekulaeva, and F. F. Litvin | 1036 | 1230 |

**Volume 47, Number 8, Part 1 August, 1982**

| | | |
|---|---|---|
| Activation of Guanylate Cyclase during Lipid Peroxidation in Biomembranes — A. S. Sobolev, V. V. Tertov, and S. D. Rybalkin | 1047 | 1251 |
| Changes in Representation of Repeated DNA Sequences in Nuclear RNAs of Early Loach Embryos — I. B. Bronshtein, K. G. Gazaryan, A. N. Davitashvili, K. A. Kafiani, and L. A. Strelkov | 1057 | 1262 |
| Interaction of Phospholipids with 3-Oxosteroid-$\Delta^1$-Dehydrogenase in Adsorption Models of Biomembranes. Interaction of Enzyme from *Mycobacterium rubrum* with Liposomes — N. N. Lestrovaya and N. I. Matveeva | 1066 | 1272 |
| Mechanisms Regulating Muscle Energy Metabolism during Oxidation of Glucose and Fatty Acids. A Mathematical Model — V. V. Dynnik | 1072 | 1278 |
| Comparison of Effect of Fluoride on Three Pyrophosphate-Hydrolyzing Enzymes: Acid and Alkaline Phosphatase and Inorganic Pyrophosphatase — V. N. Kasho, A. A. Baikov, and S. M. Avaeva | 1081 | 1289 |
| Study of Regulatory Characteristic of Glycolysis in Sheep Erythrocytes — A. I. Ataullakhanov, F. I. Ataullakhanov, V. M. Vitvitskii, A. M. Zhabotinskii, and A. V. Pichugin | 1085 | 1293 |
| Characteristics of Two Thiol Proteinases from Spleen Active in Neutral Media — L. A. Lokshina, T. A. Gureeva, O. N. Lubkova, and V. N. Orekhovich | 1090 | 1299 |
| Study of Interaction of Hexokinase Isozymes I and II with Microsomal Fraction of Rat Skeletal Muscles — N. Yu. Goncharova, V. I. Tsupak, and L. N. Loiko | 1099 | 1308 |
| Inhibition of Lipotropic Action of Human Somatotropin by Proteinase Inhibitors — Yu. A. Pankov, Yu. M. Keda, and A. G. Kiseleva | 1104 | 1314 |
| Enzymatic Hydrolysis of Cellulose. Inactivation and Stabilization of Enzymes of Cellulase Complex — A. V. Gusakov, A. P. Sinitsyn, and A. A. Klesov | 1110 | 1322 |

**Volume 47, Number 8, Part 2 August, 1982**

| | | |
|---|---|---|
| Titration of Active Sites of Dipeptidyl-carboxypeptidase by the Reversible Inhibitor SQ 20881 from Snake (*Bothrops jararaca*) Venom — N. I. Larionova, E. V. Maslov, Yu. E. Eliseeva, and L. V. Pavlikhina | 1121 | 1332 |

| | Engl. | Russ. |
|---|---|---|
| Differential Spectrophotometric Data on Condensation of Diiodotyrosine Residues to Thyroxine close to Surface of Thyroglobulin Molecule — I. G. Akhmedzhanov, E. E. Gussakovskii, T. A. Babaev, and Ya. Kh. Turakulov | 1127 | 1338 |
| Inhibition of Luciferase from the Firefly *Luciola mingrelica* by ATP Analogs — N. Yu. Filippova and N. N. Ugarova | 1130 | 1342 |
| Biospecific Isolation and Some Properties of Molecular Factors Interacting with Brain-Specific Proteins of Group S100 — A. B. Poletaev, S. V. Belyaev, and N. P. Lysova | 1136 | 1349 |
| DNA Ligase from *Streptomyces albus* G.— M. I. Boleznin, G. V. Shekhvatova, and V. V. Smolyaninov | 1141 | 1354 |
| Sulfhydryl Groups of α-Ketoglutarate Dehydrogenase from Pigeon Pectoral Muscle — O. A. Stafeeva, V. S. Gomazkova, and S. E. Severin | 1145 | 1358 |
| Study of Lipid Dependence of Cytochrome P-450 Activity of Rat Liver Microsomes Using Phosphatidylcholine-Transporting Protein from Bovine Liver — E. V. Dyatlovitskaya, D. Kh. Petkova, and L. D. Bergel'son | 1152 | 1366 |
| Characteristics of Specific Binding of Serotonin by Leukocytes, Peritoneal Cells, and Mouse Synaptosomes — L. E. Stefanovich, L. S. Eliseeva, and V. S. Popova | 1155 | 1370 |
| A Simple Selective Method of Determining DNA-Cytosine-Methylase Activity in Cell Homogenates — Ya. I. Bur'yanov and M. T. Venozhinskis | 1159 | 1375 |
| Determination of Number of Lysine Residues, Positive Charge, and Molecular Length of Histones H1 and H5 by the Method of Incomplete Succinylation — S. M. Rozov and V. A. Berdnikov | 1162 | 1378 |
| Investigation of Subcellular Location of Some Enzymes in Silkworm Eggs — V. M. Bannikov, A. P. Bochkova, G. I. Ushakova, and Yu. B. Filippovich | 1169 | 1386 |
| Comparative Enzymatic Investigation of Chromatin Structure in Nuclei of Growing Microplasmodium of *Physarum polycephalum* — D. A. Kostyuchenko, V. I. Kostyuchenko, and G. Ya. Kolomiitseva | 1174 | 1392 |
| Mitochondrial Proteinases of the Yeast *Saccharomyces cerevisiae*: Electrophoretic Detection, Substrate Specificity, and Sensitivity to Inhibitors — L. A. Novikova, S. M. Dracheva, A. S. Zubatov, and V. N. Luzikov | 1182 | 1401 |
| Histone H1-Independent Nucleolysis of a Structural Element of the Chromatin — G. I. Chikhirzhina | 1189 | 1409 |


Volume 47, Number 9, Part 1 September, 1982


| | | |
|---|---|---|
| Peculiarities of the Action of Intracellular Serine Proteinase of *Bacillus amyloliquefaciens* on Native and Denatured Protein Substrates — V. M. Stepanov, A. N. Markaryan, A. Ya. Strongin, and E. A. Timokhina | 1199 | 1427 |
| Immunochemical Study of the Catalytic Activity of Cytochrome P-450-$LM_2$ from Rabbit Liver Microsomes — V. P. Kurchenko, S. A. Usanov, and D. I. Metelitsa | 1202 | 1431 |
| Transmembrane Migration of Phosphatidylcholine and Lipid Peroxidation in Rat Liver Microsomes — L. I. Barsukov, V. I. Kulikov, G. I. Muzya, and L. D. Bergel'son | 1208 | 1437 |
| Hydrolysis of Synthetic Peptides by Cathepsins of the D Group — O. V. Kazakova and V. N. Orekhovich | 1217 | 1448 |
| Separation and Properties of Molecular Forms of Phospholipase D from Plants — M. M. Rakhimov, R. Akhmedzhanov, Sh. R. Mad'yarov, and B. A. Tashmukhamedov | 1222 | 1454 |
| Temperature Dependence of the Rat Brain Glutaminase Activity under Hypothermic Conditions — É. Z. Émirbekov and I. S. Meilanov | 1233 | 1466 |
| Coenzyme Properties of Adenosylcobalamin Analogs with a changed Purine Nucleus of the α-Ligand — M. I. Yakusheva, V. M. Gurevich, and A. A. Poznanskaya | 1237 | 1471 |
| Comparative Investigation of the Kinetics of the Reduction of Cytochrome P-450 by NADPH-Cytochrome-P-450 Reductase and Dithionite — D. R. Davydov and B. I. Kurganov | 1241 | 1476 |

| | Engl. | Russ. |
|---|---|---|
| Interaction of Yeast Inorganic Pyrophosphatase with Alkylated Sepharose Derivatives — E. A. Plaksina, G. V. Kolomiichenko, V. A. Sklyankina, A. T. Mevkh, and S. M. Avaeva | 1248 | 1483 |
| Glycylglycine Dipeptidase from Cat Nerve Tissue — M. T. Gengin, A. M. Shainskaya, and A. D. Reva | 1252 | 1488 |
| Detection of Tissue-Specific Antigenic Determinants of Chromatin — V. M. Ermekova, O. S. Melkonyan, M. G. Nanazashvili, and S. R. Umanskii | 1258 | 1494 |
| ATPase Activity and Accumulation of Calcium in the Fraction of Plasma Membranes of the Rabbit Myometrium in the State of Functional Rest and during Pregnancy — A. A. Kaplya, S. A. Kosterin, and M. D. Kurskii | 1262 | 1499 |

Volume 47, Number 9, Part 2 September, 1982

| | | |
|---|---|---|
| Study of the Binding of Cations to Myosin Subfragment I with the Aid of the Fluorescent Probe $Eu^{3+}$ — D. I. Levitskii, I. S. Litvinov, and B. F. Poglazov. | 1267 | 1504 |
| Investigation of the Photochemical Activity of Pea Mutants with Damaged Photosystems — V. V. Roshchina, G. V. Bozhok, and S. A. Gostimskii. | 1274 | 1512 |
| Participation of $K^+$ Ions in Anaerobic Glycolysis in the Bacterium *Escherichia coli* — E. O. Puchkov, N. V. Kosarev, and N. M. Petukhova | 1283 | 1522 |
| Some Physicochemical Properties of Ribose-5-phosphate Isomerase from Spinach Leaves — V. V. Ivanishchev, Yu. D. Akhmedov, and Yu. S. Nasyrov. | 1287 | 1526 |
| Lysine-rich Histones of the Mussel *Crenomytilus grayanus* — T. I. Odintsova, T. M. Ermokhina, and I. A. Krasheninnikov. | 1293 | 1532 |
| Comparison of Endogenous RNA Polymerase II in the Nuclei of *Physarum polycephalum* at Various Stages of Growth of the Microplasmodium — D. A. Kostyuchenko, V. I. Kostyuchenko, and G. Ya. Kolomiitseva | 1300 | 1540 |
| Isolation of Phospholipase $A_2$ on Biospecific Sorbents — N. G. Evstratova, A. E. Aianyan, A. I. Miroshnikov, G. A. Serebrennikova, and R. P. Evstigneeva | 1306 | 1547 |
| Study of Certain Physicochemical Properties of Cyclonucleotide-Independent Protein Kinase from the Myxomycete *Physarum polycephalum* — R. O. Solomoniya, M. V. Nesterova, and E. S. Severin | 1310 | 1552 |
| Reconstruction of the Function of the Coupling Complex of the Chloroplasts on Phospholipid Vesicles — G. Sh. Vashakmadze, T. E. Krendeleva, G. P. Kukarskikh, G. A. Khramova, and A. B. Rubin | 1314 | 1556 |
| Characteristics of Properties of the Complex of Glycogen Synthase I with Glycogen — G. A. Solov'eva, I. S. Sakharova, and Ya. I. Krivokobyl'skaya | 1320 | 1563 |
| Difference of the Primary Structures of δ-Endotoxins Formed by Various Serotypes of *B. thuringiensis* — I. A. Zalunin, E. D. Levin, E. A. Timokhina, G. G. Chestukhina, and V. M. Stepanov. | 1327 | 1570 |
| BRIEF COMMUNICATIONS | | |
| Suppression of the Generation of $H_2O_2$ and $O_2^-$ in the Respiratory Chain, Treated with 2,3-Dimercaptopropanol — M. Yu. Ksenzenko, A. A. Konstantinov, A. N. Tikhonov, and É. K. Ruuge | 1333 | 1577 |

Volume 47, Number 10, Part 1 October, 1982

| | | |
|---|---|---|
| Acid-Stable Protein Inhibitors of Mammalian Proteinases. Structure, Properties, and Biological Role — O. G. Ogloblina. | 1337 | 1587 |
| Some Properties of DNA Replication in Tissues of Mature and Old Rats — E. L. Levitskii. | 1350 | 1601 |
| Effect of Supersynthesis of Glutamic Acid on Development of Cyanide-Resistant Respiration in the Bacterium *Corynebacterium glutamicum* — S. M. Trutko, N. N. Kuznetsova, R. M. Balitskaya, and V. K. Akimenko | 1356 | 1608 |

| | Engl./Russ. |
|---|---|
| Carboxyl Groups in Active Site of Glucoamylase from *Aspergillus awamori* — A. N. Savel'ev and L. M. Firsov. . . . . | 1365 1618 |
| Study of Repair of Injuries in Membrane Apparatus Caused by Low-Temperature Freezing of *E. coli* Cells — S. G. Ignatov, O. V. Andreeva, O. A. Evdokimova, V. Yu. Artsatbanov, V. V. Perelygin, A. S. Kaprel'yants, and D. N. Ostrovskii. . . . . | 1368 1621 |
| Properties of Pyruvate Carboxylase from the Facultative Methylotroph *Pseudomonas oleovorans* — N. V. Loginova, A. P. Sokolov, and Yu. A. Trotsenko . . . . . | 1375 1629 |
| Study of Endoperoxide Prostaglandin Synthetase from Microsomal Fraction of Human Platelets — A. T. Mevkh, V. V. Basevich, and S. D. Varfolomeev. . . . . | 1381 1635 |
| Characteristics of Action of Anions on Mitochondrial ATPase — K. R. Uteulin and A. T. Ivashchenko. . . . . | 1386 1641 |
| Effect of Cadmium on Polyribosome and Poly($A^+$)-RNA Synthesis in Pea Embryos at Early Stages of Germination — Yu. P. Mel'nichuk . . . . | 1390 1645 |
| Role of Calcium Ions in Catalytic Activity of Phospholipase D — M. M. Rakhimov, T. I. Kalendareva, S. Sh. Rashidova, and Sh. R. Mad'yarov . . . . . | 1394 1649 |
| Comparative Analysis of Chromatin Degradation Products Formed in Rat Thymus Cells under the Action of Irradiation and Hydrocortisone Injection — P. A. Nelipovich, G. V. Rybalko, B. A. Korol', and S. R. Umanskii . . . . . | 1406 1663 |



**Volume 47, Number 10, Part 2 October, 1982**



| | |
|---|---|
| Proteins of Medium as Factors Regulating Synthesis of Secreted Proteinase — V. V. Yurkevich and E. S. Zueva . . . . . | 1413 1670 |
| Study of Functional Properties of Catecholamine-Sensitive Adenylate Cyclase System in Embryonic Skeletal Muscle — M. N. Pertseva, L. A. Kuznetsova, T. I. Mazina, and S. A. Plesneva . . . . . | 1420 1678 |
| Analysis of Insulin–Receptor Interactions in Rat Liver Plasma Membrane Using Antibodies against Insulin — B. N. Leibush and V. M. Bondareva . . . . . | 1428 1687 |
| Ferredoxin-Dependent Correlation between Noncyclic and Pseudocyclic Electron Transport in Pea Chloroplasts — T. P. Red'ko, V. L. Shmeleva, B. N. Ivanov, and E. N. Mukhin . . . . . | 1435 1695 |
| Interaction of Cytochrome P-450$_{SCC}$ with Adrenodoxin in Solution under the Action of Low-Spin Effectors — V. G. Radyuk, V. M. Shkumatov, V. L. Chashchin, and A. A. Akhrem . . . . . | 1439 1700 |
| A New Fucose-Specific Lectin from the Bark of *Laburnum anagyroides* Medik. Purification, Properties, and Immunochemical Specificity — M. D. Lutsik and V. A. Antonyuk . . . . . | 1448 1710 |
| Activation of Adenylate Cyclase from Bovine Brain Caudate Nucleus by Synthetic Analogs of Guanine Nucleotides — A. V. Skurat, E. A. Perfil'eva, L. A. Baranova, Yu. V. Khropov, T. V. Bulargina, N. N. Gulyaev, and E. S. Severin . . . . . | 1454 1716 |
| Binding of Low-Density Lipoproteins to Platelets — A. V. Mazurov, V. L. Leitin, S. N. Preobrazhenskii, and V. S. Repin . . . . . | 1462 1724 |
| Isolation of Bradykinin-Producing Enzyme from Proteolytic Complex of Central Asian Viper Venom — É. P. Siigur, Yu. R. Siigur, A. A. Aaviksaar, V. K. Kibirev, and D. M. Fedoryak . . . . . | 1468 1730 |
| Mechanism of Crabtree Effect. Influence of pH of Incubation Medium on Rate of Mitochondrial Respiration — A. A. Sharyshev, I. P. Krasinskaya, and L. S. Yaguzhinskii . . . . . | 1475 1738 |
| Study of Location of ATPase Site of Nitrogenase by Method of Isotopic Oxygen Exchange [$^{18}$O]-$P_i \rightleftharpoons H_2O$ — N. I. Tertyshnaya, E. G. Skvortsevich, L. A. Syrtsova, A. M. Uzenskaya, and N. S. Panteleeva . . . . . | 1478 1741 |
| Study of Stoichiometry of GTP Decomposition during Peptide Synthesis on Ribosomes. GTP Hydrolysis Not Coupled with Peptide Synthesis and Dependent on Elongation Factor T — S. K. Smailov, D. G. Kakhniashvili, and L. P. Gavrilova . . . . . | 1483 1747 |
| BRIEF COMMUNICATIONS | |
| Highly Sensitive "Silver" Method of Staining Nucleic Acids in Polyacrylamide Gels — E. P. Kharchenko and T. V. Sokolova . . . . | 1488 1752 |

Engl./Russ.

Generation of Potential Difference by Complexes of *Rhodospirillum rubrum* Reaction Centers Lacking a Heavy Subunit — E. L. Barskii, A. A. Kondrashin, and V. D. Samuilov . . . . . 1491 1755

**Volume 47, Number 11, Part 1 November, 1982**

Inhibition of Bacteriorhodopsin by Formalin and Lanthanum — L. V. Khitrina, L. A. Drachev, A. D. Kaulen, and L. N. Chekulaeva . . . . . 1495 1763

Thermal Inactivation of Bacterial Luciferase — V. N. Petushkov, G. A. Kratasyuk, V. A. Kratasyuk, and P. I. Belobrov . . . . . 1504 1773

Influence of Formaldehyde and Products of Its Interaction with Amines on Processes of DNA Transcription *in Vitro* — I. A. Protasova, Yu. A. Semin, V. V. Adler, and A. M. Poverennyi . . . . . 1509 1778

Isolation and Properties of DNA Polymerase from the Extremely Thermophilic Bacterium *Thermus ruber* — A. S. Kaledin, A. G. Slyusarenko, and S. I. Gorodetskii . . . . . 1515 1785

Analysis of Protein—Protein Interactions in an Enzymatically Complete Cholesterol-Hydroxylating System — V. G. Radyuk, V. M. Shkumatov, V. L. Chashchin, and A. A. Akhrem . . . . . 1522 1792

Changes in the Activity of RNA-Dependent DNA Polymerase in *Escherichia coli* Cells, Correlated with Changes in the Conditions of Bacterial Growth — N. A. Serdyukova, Z. I. Panfilova, A. G. Romashchenko and R. I. Salganik. . . . . 1530 1802

Interaction of $N^1$-, $N^6$-, and $C^8$-Substituted Derivatives of Adenosine-5'-triphosphate with the Catalytic Subunit of cAMP-Dependent Protein Kinase from Rabbit Skeletal Muscles — L. A. Baranova, I. A. Grivennikov, and N. N. Gulyaev . . . . . 1534 1806

Role of Vanadium in the Regulation of Redox Reactions in Membranes — Z. Ya. Kikvidze, D. V. Chikvashvili, Z. P. Kometiani . . . . . 1542 1814

A Trypsin-Like Proteinase of *Actinomyces fradiae* 119 — L. S. Lagutina, I. S. Petrova, and M. E. Slepak . . . . . 1545 1818

Extracellular Serine Proteinase of *Bacillus licheniformis* — V. Kh. Akparov and V. M. Stepanov . . . . . 1551 1825

Distribution of 5-Methylcytosine in the Genome of Phage λ Methylated by DNA Methylase EcoRII — I. G. Bogdarina, Ya. I. Bur'yanov, and A. A. Baev . . . . . 1556 1831

New Data on the Function of Brain-Specific Proteins of the S-100 Group: Interaction with Tubulin of Nerve Tissue — A. B. Poletaev and O. D. Meshcheryakova . . . . . 1559 1835

Characteristics of the $K^+$-Transporting System of the Mitochondria during Intensive Physical Work — V. P. Zinchenko, L. Yu. Kudzina, Yu. V. Evtodienko, and Yu. V. Kim . . . . . 1563 1839

**Volume 47, Number 11, Part 2 November, 1982**

Isolation and Properties of Carboxylesterase from Hemolymph of the Silkworm *Bombyx mori* L. — E. A. Naletova, T. A. Egorova, and Yu. B. Filippovich . . . . . 1567 1844

Inactivation of Prostaglandin Endoperoxide Synthetase from the Microsomal Fraction of Human Thrombocytes during the Reaction — A. T. Mevkh, V. V. Basevich, I. Yarving, and S. D. Varfolomeev . . . . . 1574 1852

Peculiarities of the Functioning of Two Molecular Forms of Pea Ferredoxin in the Electron Transport Chain of the Chloroplasts — V. K. Gins, A. N. Tikhonov, E. N. Mukhin, and É. K. Ruuge . . . . . 1581 1859

Proteins of Bacterial Membranes. NADH Dehydrogenase of *Acholeplasma laidlawii* Cells — A. B. Kapitanov, M. N. Smirnova, and E. V. Kazennova. . . . . 1588 1867

Localization of NADP-glutamate Dehydrogenase and Glutamine Synthetase Synthesis in Cells of Single-Celled Green Algae — A. V. Sof'in, V. R. Shatilov, T. M. Zabrodina, and V. L. Kretovich, . . . . . 1593 1873

Influence of a Cobalt Dehydrocorrin Complex on Mitochondria — L. L. Kiseleva, G. N. Novodarova, M. E. Vol'pin, and A. D. Vinogradov . . . . . 1597 1877

| | Engl. | Russ. |
|---|---|---|
| Determination of the Glycogen Phosphorylase B Activity by a Turbidimetric Method in the Simultaneous Presence of Substrates of the Forward and Reverse Reactions — N. P. Sugrobova, N. P. Lisovskaya, and B. I. Kurganov | 1603 | 1883 |
| Investigation of Structural Rearrangements of Chemosensitive Biomembranes under the Action of Low-Molecular-Weight Compounds by the Spin Probe Method — A. M. Korolev, O. Yu. Frolov, V. A. Fedin, V. I. Sergeev, and S. N. Shikhov | 1608 | 1889 |
| Acid Proteins of the Ribosomes of Eukaryotic Cells. Isolation of a Protein Similar to *E. coli* L7/L12 from 80S Ribosomes of the Pea — N. P. Yurina, N. A. Byzova, and M. S. Odintsova | 1617 | 1899 |
| Investigation of the Structure of Glyceraldehyde-3-phosphate Dehydrogenase from Rat Muscles. Localization of Arginine Residues Modified with 2,3-Butanedione — N. D. Vospel'nikova, M. I. Safronova, E. R. Shubalova, A. O. Zheltova, L. A. Baratova, S. P. Knyazev, and N. K. Nagradova | 1624 | 1907 |
| Isolation of DNA Topoisomerase (Relaxing Enzyme) from Ehrlich's Ascites Carcinoma Cells. Some Properties and Nature of Its Heterogeneity — V. I. Naktinis, I. M. Undritsov, and A. D. Mirzabekov | 1634 | 1918 |
| Investigation of the Peculiarities of the Reaction of Photophosphorylation Using ε-ADP — a Fluorescent Analog of ADP — N. P. Tatarintsev and A. D. Makarov | 1642 | 1928 |



**Volume 47, Number 12, Part 1 December, 1982**



| | | |
|---|---|---|
| Isolation and Electrophoresis of High Mobility Group Proteins from Chicken Liver and Oviduct — T. N. Medvedeva, O. M. Krepak, and M. M. Serykh | 1647 | 1943 |
| Role of β-Cyanoalanine Hydratase in Asparagine Synthesis in White Lupine — S. M. Galoyan, É. A. Tolosa, and E. V. Goryachenkova | 1652 | 1949 |
| Photooxidation of P700 in Preparations of Photosystem 1 Containing Different Amounts of Antenna Chlorophyll *a* — M. D. Il'ina and A. Yu. Borisov | 1656 | 1954 |
| Study of Properties of Polyphosphate Phosphohydrolase from *Neurospora crassa* Mutant "Leaky" with Respect to This Enzyme — L. V. Trilisenko, V. M. Vagabov, and I. S. Kulaev | 1664 | 1963 |
| Interaction of Ubisemiquinone with Succinate Dehydrogenase and the Mitochondrial Cytochrome Chain — I. V. Grigolava, A. A. Konstantinov, M. Yu. Ksenzenko, É. K. Ruuge, and A. N. Tikhonov | 1671 | 1970 |
| NADPH- and ATP-Dependent Luminescence of Extracts of Luminescent Bacteria — E. S. Vysotskii, V. V. Zavoruev, and V. V. Mezhevikin | 1682 | 1983 |
| cAMP-Dependent Phosphorylation of Rat Skeletal Muscle Phosphorylase b Kinase during Physical Load and Training — M. I. Kalinskii, T. P. Kondratyuk, and M. D. Kurskii | 1687 | 1988 |
| Separation and Properties of Multiple Forms of Acid Phosphatase from Silkworm Tissues and Organs — A. S. Konichev, A. P. Échkalov, and Yu. B. Filippovich | 1691 | 1993 |



**Volume 47, Number 12, Part 2 December, 1982**



| | | |
|---|---|---|
| Calcium Transport to Synaptosomes and Subcellular Membrane Fractions of the Brain: Influence of Opioid Peptides — G. M. Kravtsov, G. G. Ryazhskii, and S. N. Orlov | 1703 | 2006 |
| Isolation of Protein Chymotrypsin Inhibitor from Honey Locust Seeds — V. V. Mosolov, T. A. Valueva, and G. V. Kolosova | 1710 | 2015 |
| Multiple Forms of Rat Liver Arginase — S. S. Trapeznikova, D. G. Navasardyants, and M. A. Davtyan | 1716 | 2022 |
| Cellular Retinol-Binding Protein from Mucosa of Intermediate Zone of Chicken Proventriculus — L. A. Chernukhina, A. G. Khaimuradov, A. A. Dusheiko, and M. A. Blazhevich | 1721 | 2028 |
| Purification and Some Properties of Molecular Forms of 6-Phosphogluconate Dehydrogenase from Rat Liver — S. S. Maglysh, Z. V. Gorbach, and Yu. M. Ostrovskii | 1727 | 2035 |

Interaction of Spin-Labeled Phosphatidylcholine with Ca-Dependent ATPase from Sarcoplasmic Reticulum – V. B. Ritov, L. G. Artemova, O. A. Azizova, P. G. Komarov, A. G. Maksina, M. K. Murzakhmetova, R. I. Zhdanov, V. A. Sukhanov, Yu. A. Vladimirov, Yu. P. Kozlov, and V. I. Shvets ..... 1733 2042

The Bulk of the tRNA in Extracts of Animal Cells Is Not Complexed with Proteins – A. T. Al'zhanova, E. K. Davydova, and L. P. Ovchinnikov ..... 1737 2048

Rapid Transmembrane Migration of Phosphatidylcholine Induced by Cytochrome P-450 – L. I. Barsukov, V. I. Kulikov, G. I. Bachmanova, A. I. Archakov, and L. D. Bergel'son. ..... 1744 2055

Methylated Nitrogenous Bases of Saccharomyces cerevisiae DNA – M. T. Venozhinskis, S. I. Kanopkaite, and Ya. I. Bur'yanov ..... 1752 2064